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Visual Instruction News

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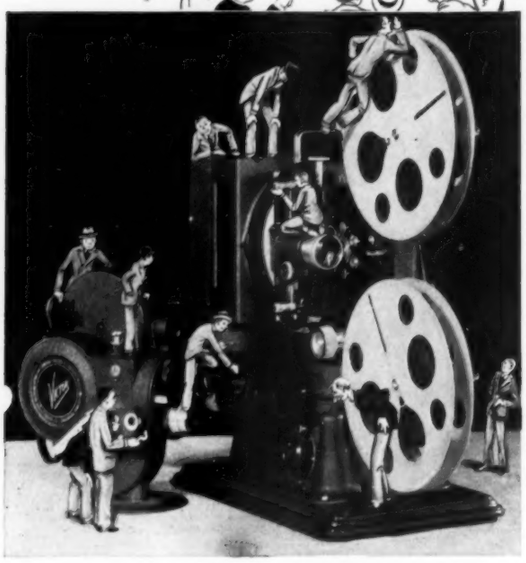

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APRIL, 1933

VOLUME XII NUMBER 4

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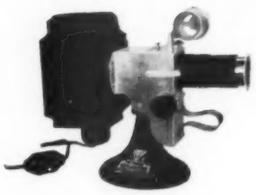

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Adapting Visual Aids to Class Routine

II. Making Photographic Copies of Visual Material

(Concluded from March)

CLYDE STEWART

FILM slides can also be copied much cheaper than lantern slides. For this purpose a long printing frame[3] should be constructed such as the one shown in figure 2. The length can be altered if desired but the width of the film track should be 35 mm. or 1⅜ inches. The ends are left open so that extra lengths of film can project out when a long film is copied. A strip of opaque paper can be pasted along each side of the film track so that the perforations along the side of the film will not print black on the negative copies. The raw unexposed film can be purchased from the Eastman Kodak Company for about two dollars and fifty cents per hundred feet. Nothing but safety positive film should be used for copying. Negative film is too fast for copy work. The exposures and development are about the same as for lantern slides.[4] After washing, the excess water on the film can be wiped off with a damp chamois skin before the film is hung up to dry. This avoids any possibility of water stains caused by a great amount of mineral in the tap water.

Paper copies of film slides can be made in the same way as the paper copies of lantern slides. The paper should be purchased in rolls from the photo supply house and cut into 1⅜ inch widths and of a suitable length. The copies are rather small however for most uses.

To make enlarged paper copies from film slides a slotted printing frame such as that shown in figure 3 can be used. The frame that comes with the photofinishing outfit mentioned above can be used. It will not spoil it for other work. The frame should be screwed to a wood base (D) and have two slots (S) cut in the side as shown in the figure. The length of the slot will determine the largest width of paper that can be used. I have found that about 2¼ inches makes a very convenient width to use with a four by five inch printing frame, which is the size furnished with most photofinishing outfits. Other sizes of course can be used.

To make use of the outfit the negative film slide is put into the projector (p), and the image is focused on the frame at (B). This is done in a room dark enough to avoid exposing the printing paper. A twenty-five watt red bulb makes plenty of light to work with and will not expose the paper. The unexposed paper is rolled up and held in a roll by a clothes pin as shown in figure 3 at (A). If a piece of red glass is available it can be leaned up against the projector lens and the image of the film can be focused on to the printing paper through the glass (E). This insures a sharp focus and will not make an exposure until the glass is removed. The first view is pulled into place in the projector and an exposure of the proper length is made. The red glass (E) is then placed to cover the lens of the projector, or the projector lamp can be turned off while a fresh section of paper is pulled into place. The upper half of the clamp on the printing frame is loosened during this operation. A pencil mark placed on the back of the paper enables a person to tell when he has pulled the paper the proper distance. The exposed paper (C) should be rolled up and held in place with a clothes pin the same as (A). This protects it from stray light that might come from the projector lamp house. The next frame is then pulled into place in the

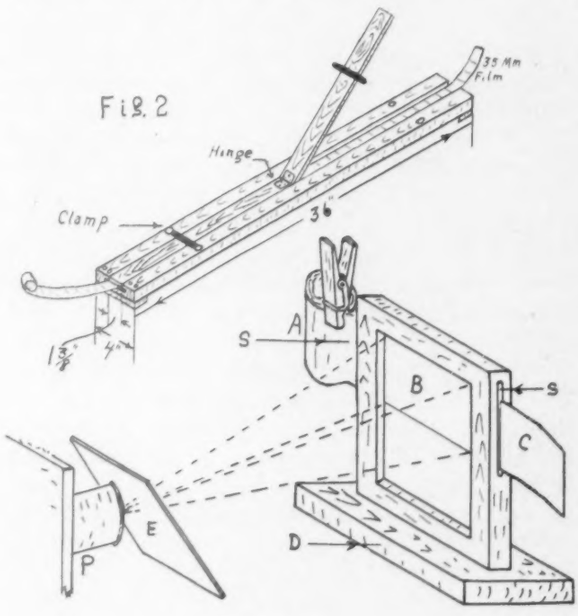

Fig. 3

projector and exposed. When all the frames or as many as one wants are exposed the paper is taken out and developed in the usual way. Before starting the exposures a small strip of paper should be placed in the frame and a trial exposure made so that the proper length of exposure can be

3. A printing frame for 35 mm. films can be purchased from the Agfa Ansco Corporation of Binghamton, New York.
4. A free booklet entitled "Developing, Printing, Enlarging Leica Pictures" giving valuable information about the handling of 35 mm. film can be obtained from E. Leitz Inc., 60 East 10th Street, New York City.

determined. If the lens mount on the projector can be moved ahead far enough lantern slides can be copied on to rolls in much the same fashion. The proper sequence is then preserved and the rolls are very easily stored when not in use.

Lantern slides or film strip pictures can be enlarged for framing by this method. If the printing frame is not large enough to take the size paper you wish to use, it can be fastened to a bread board with thumb tacks while the exposure is made.

In all photographic work great care must be taken to keep all equipment clean or stains may result. Do not allow your fingers to dip into the fixing bath. Use a glass rod to manipulate materials in the bath. If any hypo is carried back into the developer it may cause stained prints.

III. Making Your Own Slides and Film Slides

If a school cares to invest a little more money in equipment it is easy for a teacher who is interested to produce some excellent slides or film slides. The equipment for producing slides is much cheaper than that required for producing film slides. Conversely the cost of materials is about twenty times as much per picture for slides as it is for film slides. If the school can make some of the equipment the cost can be cut down considerably. I have constructed most of the equipment we use here and the cost of materials was well under fifty dollars. There is a great deal of satisfaction in being able to organize your own visual material into slides or film slides. There is no loss from undesirable material when this is done.

To make lantern slide plates by copying diagrams or pictures from books requires a good plate camera. The best size to purchase is a 3¼ x 4¼ inches since slides are 3¼ x 4 inches. It should have a double extension bellows, otherwise it will be impossible to focus on near objects such as diagrams in books. The lens should be an anastigmat of good quality. Cameras of this type range in price from about twenty dollars and up for types that are suitable for lantern slide copy work.

For any kind of copy work a copying stand should be constructed or purchased. A vertical type such as the one shown in figure 4 is far more convenient than the horizontal types. The construction of a satisfactory stand is not difficult. The camera (E) slides up and down the vertical board (A) and can be clamped at any position by the screw (B) in the slot (H). The work to be copied is laid on the base (C) and illuminated by two frosted bulbs (D) of about 75 or 100 watts inclosed in reflectors. The reflectors can be cheaply made by soldering brass lamp sockets into the halves of a syrup pail. The inside of the reflectors should be painted a dull white to give a soft even light from both sides of the copy stand. This helps to eliminate glare and shadows. No dimensions for the stand have been included since the size of the camera used and the probable size of copied material must be considered.

To copy a picture or diagram from a book the camera plate holder can be loaded in a dark room with an unexposed lantern slide plate. A lantern slide can be used in place of a plate by not pulling the plate holder slide all the way out during an exposure. This will keep the plate from dropping out of the holder since the plate will be a little short for a 3¼ x 4¼ inch camera. Better copies of diagrams can be obtained by using process plates. If plates are used for pictures the Eastman Universal plate will do good work. The procedure of copying is simple. Suppose we wish to copy a diagram. The diagram is placed on the base and illuminated with the copy lights. The camera shutter is set on T and opened. An image of the diagram will then appear on the ground glass back of the camera. Adjustment of the camera up and down the vertical board will enable you to get the proper size image. At the same time the image should be brought into sharp focus by racking the bellows in or out. After the proper size image is in focus the camera is clamped firmly to the board and the shutter is closed. The plate holder can then be inserted and an exposure made. In making an exposure the diaphragm stop of the camera should be set at about F 11 or 16. This slows up the exposure and also takes care of any slight errors in focusing. The shutter should be left on T. The time of exposure must be determined by experiment but it will probably be from ten to thirty seconds. After an exposure the dark slide is inserted in the plate holder and the plate is then ready for development as described in part two. The negative obtained is then printed on to a slide or may be used as it is if the subject matter was a diagram. Of course not all negatives will be copy work. The camera can be used for outdoor pictures the negatives of which can be printed on lantern slides.

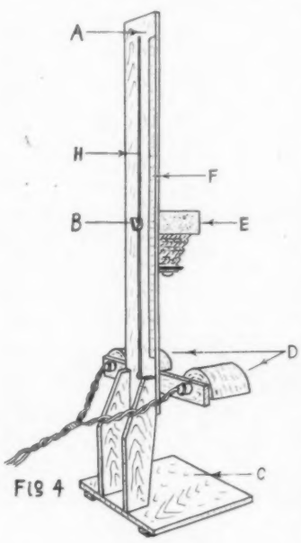

FIG 4

The average commercial film slide on 35 mm. film is technically known as a single frame slide. The actual size of the picture is about ¾ x 1 inches. It is possible to prepare pictures on the same film of double frame size that are 1 x 1½ inches. One of the

(*Concluded on page* 113)

Can Educators Profit From Industry's Experience with the Motion Picture?

HOWARD A. GRAY

SHORTLY after his first successful experimentation with motion picture equipment, the late Thomas A. Edison predicted that in time educational institutions would come to use the film as an effective instructional device. His prophecy was repeated in 1900 at the Paris Exposition of Instruction by delegates who viewed the first educational motion picture—a film made up of ten negatives glued end to end and portraying scenes in the municipal schools of Paris for a period of forty-five seconds on a small plate of ground glass.

During the next twenty-five years, the somewhat limited use of the silent film for classroom instructional purposes led to experimentation in testing its effectiveness. The results objectively substantiated Edison's opinion since it was found that children learned and retained more factual knowledge, voluntarily did more supplementary reading, and, from their vicarious experience, were able to express a greater number of ideas when appropriate motion pictures were made an integral part of their instruction. In addition, the film was recognized as being an effective stimulus by which attitudes might be permanently changed and conduct modified for better or for worse.

Experiments with sound motion pictures have yielded even more favorable results. In June, 1931, a testing project, supervised in part by the United States Office of Education, revealed the sound picture to be approximately twice as rich in instructional values as its predecessor, the silent film. About the same time, an independent investigation conducted at Columbia University with adult graduate students as subjects, showed a twenty-minute sound picture to be a significantly more effective learning aid in two different subjects than longer periods of time spent on discussions, readings, and lectures. More recently concluded experiments both in England and America have yielded convincing quantitative data regarding the efficacy of sound films in teaching the subjects of geography, literature, civics, music, and natural science.

Irrespective of the abundant evidence favoring the use of such materials, educators have been tardy in developing the medium for classroom purposes. Similarly, we only have begun to utilize it in dealing with our many other problems.

It may be profitable, therefore, for us to take cognizance of the many industrial uses to which the motion picture has been put, and to consider its applicability to current educational projects apart from regular classroom instruction. Then too, it should be of general interest to learn that the preparation and projection of films on various phases of industrial projects has become an important and far-reaching activity.

The Motion Picture Division of the Bureau of Foreign and Domestic Commerce estimates that over two thousand firms in the United States are using motion pictures in some manner at the present time. In fact, every industry is now represented by at least one motion picture, including technical, educational, advertising and other films for use within industries themselves and for contacting the public with the object of securing its good-will and patronage.

During 1912, the initial attempt to develop motion pictures for technical purposes indicated that many economies could be effected by photographic analyses of workers' movements. Later experiments have tended to corroborate these findings and particularly stress the value of the film for operation analysis and correction where other means are inadequate. One experimenter, after photographing and analyzing the movements of machine operators, was enabled to recommend changes which resulted in reduced unit costs of 28%. At the same time he increased production 60%, reduced fatigue on the part of the workers, and increased the latter's earnings 9%. In a New Jersey factory a saving of over two thousand labor hours per year followed a motion picture study of a single operation in box making, and a similar analysis made possible a 45% reduction in the time required to handle small parts in an electrical manufacturing plant.

Other technical pictures taken with ultra-speed cameras have yielded valuable results in the field of dynamics. Truck spring performance, revolving propellers, welding processes, rolling operations, airplane wing stress, and defects in high speed machinery are among the many engineering problems which have been studied by such means.

Slow-motion and time-lapse photography also have proven to be effective industrial aids. Slow-motion pictures of rapid machine operations train workers for difficult production tasks. During the construction of the building for the Panama-Pacific Exposition in 1913, a motion picture camera focused on Machinery Hall clicked every five minutes to make a permanent record of the progress of various stages of the work. Recently, the construction of a suburban library was similarly photographed and afforded the solution of a number of architectural problems confronting the builders. Banks now regularly employ the camera to make photographic records of checks and other negotiable paper passing through their hands. One New York institution alone reported a saving of

$12,500 in a year's time through the prevention of frauds, clerical errors, duplication of effort, and other costly procedures which otherwise would have occurred without such records.

Technical Films for Education

Educational research groups to some extent have begun to employ technical talking pictures as a scientific approach to such studies as child development, diagnosis of subject matter disabilities and methods of instruction, but many avenues of fruitful activity remain unexplored. Among the numerous problems which suggest themselves as being peculiarly suitable to analysis by such a technique are included growth and muscular development, problems in speech and hearing, human and animal learning, the study of physically handicapped children, and the reactions of the mentally atypical child. In addition to furnishing the solution of specific problems, another type of technical sound picture would be valuable for the training of professional workers and for the guidance of lay groups concerned with school problems. The technical aspects of school buildings, equipment, administrative methods, personnel management, pupil accounting, and other subjects, if made available in a series of sound pictures would do much to vitalize training programs and reduce educational waste. The cost of such a series of pictures could probably be defrayed by the savings realized in single state's school building or professional training program.

Industrial Uses of Educational Pictures

Industry has been using the film for instructional purposes for nearly a quarter of a century. As early as 1909 it was advocated to employ motion pictures as an inexpensive means of apprentice instruction. Since that time employee vocational training has been accomplished by a number of firms. Claims are made that the efficiency of older workers is kept up to standard by periodically filming their acitivities for later viewing by the workers themselves. The most recent contributions to the field of industrial vocational training are two sound pictures produced by a parcel delivery service to give its employees a more vivid and dramatic idea of problems and methods in developing and preserving the public's good-will.

In 1913, the National Manufacturer's Association sponsored the production of two motion pictures on accident and fire prevention. These were shown with a positive effect on the employees of the two companies, as well as being projected in 7,500 theatres throughout the country for the benefit of the public. A similar program was sponsored sometime later by another large industrial organization in an effort to cut down waste of materials by its employees, with the showings resulting in a steady saving as well as an increased output. Many additional pictures of this type have been made, among the latest being a sound production by a midwestern railway for educating its workers on the conservation of fuel. The practice has grown to where one business organization has made the film an integral part of its public relations and management activities. At present it maintains a complete laboratory, theatre, and studio accessories for producing pictures, as well as having acquired a library of over 800,000 feet of positive prints.

Abroad, efforts are being made by several industries to use the film in many unique undertakings. Efficiency programs involving posture studies, accident prevention, working conditions, the effect and prevention of fatigue for different types of occupations, together with other projects are being undertaken. It is suggested that business executives and plant efficiency experts profit from the inter-exchange of ideas by means of a series of pictures on problems of management peculiar to certain manufacturing operations. Last year the Federation of British Industries announced the production of a series of films on English production and distribution problems for promoting business knowledge among its membership and different labor groups. In this connection, the Fourth International Congress of Scientific Management, held at Paris in 1929, selected the motion picture as the most promising aid available for the objective study of factory management.

The Federal government is probably the largest single sponsor of industrial educational motion pictures in America. The Bureau of Mines, the Department of Agriculture and other government departments have prepared an enormous amount of picture material for imparting information on matters with which they are concerned. Without doubt, the government's activity in this field has been of great value to many industries and individual workers throughout the world. The Department of Agriculture itself loaned over 10,000 films during 1930 to various organizations, including schools, colleges, and universities. In addition, more than 400 films were sold to American educational institutions and over 200 to foreign organizations for instructional purposes. Recently, the department has produced a number of talking pictures to be distributed for general information at home and abroad on agricultural subjects.

Our own government's activity in this field may be contrasted to that of Soviet Russia in the latter's effort to expediate its industrial revolution. American production and operation methods are being filmed in great detail and shown to the workers. Modern railroading, manufacturing and agricultural activities are of particular interest to the Soviet Union, and 50,000 feet of film portraying the operation of an American railroad were sent to Moscow during 1930. In order to strengthen its foreign credits and to spread the doctrine of Communism, the Stalin government has produced several Russian industrial pictures for theatrical showings in other countries.

(To Be Concluded in the May Issue)

GOVERNMENT ACTIVITIES IN THE VISUAL FIELD

CONDUCTED BY MARGARET A. KLEIN

A Filing System for Visual Aids

THE April, May and perhaps the June articles for this department will deal with a phase of visual education work, which I consider very important. The efficient functioning of a visual education division depends greatly upon the proper set-up of the division and the proper set-up in turn includes most decidedly an adequate filing system, and that is the phase of visual education that I shall discuss in this article and subsequent ones.

A very good reason underlies the decision to discuss this problem. First, let me say that practically all government departments and semi-official agencies that distribute material use with, perhaps, a few variations the system which I am going to describe and have found it very efficient.

From time to time visual-education workers have asked me about the set-up for a visual-education division and I am convinced that their greatest need is a workable filing system.

Visual education, or education by means of graphic presentation, is based on two fundamental principles, which are (1) adequate information about all kinds of visual material, and (2) proper distribution of visual material so that it may be used to the best advantage and accounted for at all times.

Some of the things one needs to know about visual aids are: What they are; where they may be obtained; how they may be used; various kinds of material used in constructing models; kind of cardboard and paper needed for posters; how to use crayon, water colors, poster paint, colored inks, etc., properly; information about photographs and photographic material; knowledge of various kinds of projectors; a knowledge of electrical appliances for lighting effects of motors and other appliances which will produce motion, and various kinds of building materials; information about museum exhibits, the specimen-object-model, the school journey, and a working knowledge of present day advertising displays and methods.

In order to have all this information in usable form and to properly conduct the distribution of visual material it is quite necessary to have an adequate filing system, which should have, at least, six separate files as follows:

1. The distribution file
2. The stock file
3. A temporary file for the shipper
4. The card-information file
5. The materials-information file
6. The photographic file

In describing the above files I shall use the color codes and set-up now in use in the majority of visual-education divisions in official and semi-official agencies. Also, I shall describe the set-up of each file separately since each one has a distinct function.

The Distribution File

The purpose of the Distribution File is to provide an adequate record of the distribution of material and involves (1) a record of shipments so that they may be made at the proper time, (2) a means of locating material whether it is out on loan or in the stockroom, and (3) the complete history of all material distributed during the year.

The Distribution File should be divided by salmon-colored guide cards into five main divisions (which for the sake of brevity we shall refer to as "sections"), with the following designations on the tabs of the guide cards:

1. Send, 2. Tentative, 3. Future, 4. Out, 5. Closed.

The subdivisions and their functions are as follows:

1. The "Send" section of the Distribution File must contain 31 blue guide cards numbered from 1 to 31 consecutively which correspond to the days of the month. When a loan is made, an index card which we shall call the shipping card is made out and is placed in back of the number corresponding to the date on which the material is to be shipped. For example, if some material is to be shipped to Miss Black on November 16, her card (which is the shipping card) is placed in back of the blue guide card designated "16". The "Send" section is consulted each morning and the material scheduled for distribution on that date is prepared for shipment the first thing in the morning so that it will be ready when called for. The daily inspection of the "Send" section on November 16 would disclose the fact that some material was scheduled for shipment to Miss Black on that day.

2. The "Out" section of the Distribution File consists of 26 blue guide cards lettered from A to Z. As soon as Miss Black's shipment is made on November 16 her shipping card is removed from the "Send" section and, after all notations are made on it, is placed in the "Out" section back of the blue guide card noted as "B". The "Out" section is a record of all the material while it is out on loan.

3. The "Closed" section of the Distribution File consists of salmon-colored guide cards that separate each year's work and contains all the shipping cards filed after the material has been returned. For example, when Miss Black returns her material, her card

is taken from the "Out" section and after the proper notations have been noted, the card is placed in the "Closed" section. The guide cards in the "Closed" section indicate the year for which the material has been lent. The "Closed" section is actually a complete record of that year's work.

4. The "Tentative" section of the Distribution File is a record of material that is tentatively reserved. Sometimes the borrower does not understand the terms under which the material may be secured and it is necessary to make a tentative reservation until the doubt surrounding the loan is removed. A shipping card is made out as in case of a definite reservation. If the borrower finally decides not to use the material, the card is destroyed but if he decides to use it, the card is put in the "Send" section in back of the date on which the material is to be sent.

5. The "Future" section of the Distribution File takes care of all reservations not scheduled to go out during the current month. It is a good plan to put future reservations in the "Send" section after the tenth of the month so that future shipments in the early part of the succeeding calendar month will not be overlooked. Sometimes future shipments are scheduled several months in advance and in that case, the card is retained in the future shipments until the tenth of the month preceding the date of the shipment.

How to Use the Distribution File

In order to understand clearly how the "Distribution File and the various cards are used let us consider a concrete example. For instance, Miss Mary Black of the Central High School, Rush Center, Colo., phones to the visual education office on October 8, 1931, that she wants to use a motion picture entitled "Diet" and some posters on the same subject for a health education exhibit in her school on November 23-25, 1931.

The answer to her letter informs her that the material will be sent to her about November 16, which will be in time for her exhibit. A shipping card, the ordinary 4 by 6 white index card (unruled) is made out as follows:

BLACK, MISS MARY November 16, 1931.
Central High School,
Rush Center, Colo.

Diet No. 14
Diet Standards No. 2
A Healthy Diet No. 5

As will readily be seen, this card (which is the shipping card) shows the person to whom the material is to be sent; the address to which it is to be sent; the shipping date (when it is to be shipped) on the upper right hand corner of the card; and the material to be shipped is noted on the body of the card.

On the reverse side of the card are made the following notations:

Purpose: Health exhibit in school room, November 23-25.
Return date: November 30, 1931.

This card is filed in the "Send" section of the Distribution File back of the blue guide card numbered "16". On the morning of the 16th of November a glance at the "Send" section discloses the fact that the material is to be shipped that day. Tags are made for the shipping case and a letter which is called the "shipment letter"—is sent to Miss Black telling her of the shipment.

The shipping card is then filed in the "Out" section in back of the blue guide card marked "B". With the shipment letter is sent an acknowledgment form for Miss Black to fill in and return to the office of the visual education division when she receives the material. This acknowledgment form is filed in the office correspondence files when it is received in the office and the shipping card is stamped "Shipment received by borrower." The purpose of the acknowledgment form is to provide a record of the fact that the borrower received the material. An example of the acknowledgment form generally in use is as follows:

School.....
Date .....

Director,
Visual Education Division,
Rush Center, Colo.
Dear Sir:

The package containing { charts / film / model / slides } of whose shipment you notified me { has / has not } been received.

.....

When the material is reserved a notation is made on the stock cards. (This will be discussed more fully later.)

After Miss Black has returned the material to the visual education division, it is examined and if in good condition a notation should be made on the card "Returned-Examined-O. K." A letter is written to Miss Black informing her that the material has been received and the shipping card is filed in the "Closed" file in back of the guide card indicating the year to which it belongs. If the material is not returned in good condition, further correspondence is necessary to adjust the matter and an excerpt of the important facts in the case is typed on the card. The shipping

(*Concluded on page* 111)

FILM PRODUCTION ACTIVITIES

The aim of this new department is to keep the educational field intimately acquainted with the increasing number of film productions especially suitable for use in the school and church field.

Founding of Woodmen Society Filmed

Modern Woodmen of America, the largest fraternal insurance society in America, have used motion pictures as publicity since 1911 and have released this year a historical film of the Society's fifty years of existence. This film called *Woodcraft's Golden Anniversary* is two reels in length and available in either sound or silent versions, (sound-on-film only). Modern Woodmen of America was founded in Lyons, Iowa, fifty years ago and the film re-enacts the founding of the society with scenes made at the exact locations where the historical events took place. Characters representing the founders, actual buildings used as early offices are seen, with a special musical score and dialog accompanying the film. Actual motion pictures made in 1911, 1914, 1917, 1921 and on up to 1932 are shown in review and present one of the most interesting historical documents ever presented on the screen. This film is available from the Motion Picture Department, Modern Woodmen of America, Rock Island, Illinois, or from Ray-Bell Films, Inc., the producers.

Two Scenics

After six weeks in Glacier National Park last summer for the Great Northern Railway when nearly 15,000 feet of negative was exposed, Ray-Bell Films, Inc., have just completed two releases for the Great Northern Railway on the Park. These two subjects, one a two reel film *Land of Shining Mountains,* and the other a one reel film *A Fisherman's Paradise* are available free of charge in either 16 mm. or 35 mm. size. The beautiful ruggedness of Glacier National Park and the wonderful scenic beauties of a four-day trip through the Park are covered in the two-reel subject. *A Fisherman's Paradise* presents various fishing spots in the Glacier National Park country where real fishing and scenic beauty are combined.

Child Health Film

Dr. David B. Hill, First National Bank Bldg., Salem, Oregon, has produced a 500-foot 16mm film called *The Life of a Healthy Child* which portrays the events of a child's day, from early morning to bedtime at night—how the child walks, breathes, plays, brushes its teeth, sleeps, and everything it eats. This film has been shown extensively in the schools of Oregon and Washington, and before a number of dental societies throughout the country. It has been praised highly in authoritative quarters for its informative, wholesome subject matter, its positive teaching force, its excellent photography, and the naturalness of its caste. The Marion County Public Health Association, of which Dr. Hill is president, in the interest of child health, is offering prints of this film at cost to schools, dental societies, and health organizations.

—(Filmo Topics)

Two More Films Ready in University of Chicago Series

Electrostatics and *Energy and Its Transformation* are the titles of the latest releases in the Physical Science series of talking pictures produced by the University of Chicago in cooperation with Erpi Picture Consultants, Inc. The first two subjects, *Oxidation and Reduction,* and *Molecular Theory of Matter,* were reviewed in the December issue of THE EDUCATIONAL SCREEN.

Electrostatics deals with static electricity as fundamental to an understanding of the modern theories of electricity. It explains how positive and negative electrification are produced and by animated drawings shows the part played by insulators and conductors.

In *Energy and Its Transformation,* potential, kinetic and radiant energy, as manifested in mechanical, chemical and thermal form, are vividly illustrated and explained. The principle of conservation of energy, and the terms "power" and "work" are demonstrated in experiments. Sources of energy are reviewed.

All four films may also be obtained in silent version. 35 mm. or 16 mm.

Army Sound Productions

The U. S. Signal Service have recently completed two 16 mm. sound productions at their Washington, D. C. studios. The subjects were Training in Chemical Warfare, and were filmed as silents at Fort Monmouth, the sound accompaniment being done in Washington. Captain A. H. Jervey, U. S. A. Signal Corps, directed the productions, which deal with practical war problems and use of chemical gases in warfare. Arrangements are being made to distribute these films to the various army posts of eight army corps areas.

Preparation of Food Shown in Short

The fine art of preparing food will be the subject of a new short subject titled *Menu,* to be filmed by the Metro-Goldwyn-Mayer studios in the world-famous kitchens of the Ambassador Hotel at Los Angeles, Calif.

The presiding chef, Henry Vassetti, renowned for his culinary skill, will be shown at work. Secrets of chefdom are to be photographed in close detail so that any housewife may attempt them in her own home.

DEPARTMENT OF VISUAL INSTRUCTION NOTES

CONDUCTED BY ELLSWORTH C. DENT, SECRETARY

Annual Meeting of Department

The next convention of the Department of Visual Instruction is to be in Chicago on July 5 and 6, 1933. The sessions will be held in the beautiful Florentine Room of the Congress Hotel. The Congress is almost at the gate of the Century of Progress Exposition and the foyer outside the Florentine Room overlooks the northern section of the Exposition. The Congress is within two short blocks of the Stevens Hotel, which will be headquarters for the National Education Association and will contain the exhibits.

Special convention rates will apply to room reservations at the Congress and reservation cards will be mailed to all members of the Department of Visual Instruction, as well as to all others who may request this service. The excellent convention facilities of the Congress have been placed at the disposal of the Department for its meetings.

Interesting Program Planned

The program of the 1933 Convention includes many interesting features. The Chicago Public Schools will present a demonstration of radio-vision, as used regularly among various schools. There will be a visit to Adler Planetarium and much information concerning educational exhibits of the Century of Progress Exposition.

Secretary, Department of Visual Instruction,
1812 Illinois Street, Lawrence, Kansas.

Date.....

Check Below

- I am planning to attend the Chicago meeting of the Department.
- I desire membership in the Department. ($2.00 annually.)
- I am a member of the National Education Association.
- I wish to order a copy of the 1933 Directory. ($1.50, postpaid.) (Directory is free to members in good standing.)
- I shall attend the luncheon at 12:15 noon, July 5. ($1.25).
- I shall attend the luncheon at 12:15 noon, July 6. ($1.25)
- I shall want a room reservation at the Congress Hotel. (If checked, reservation card will be mailed to you.)

Name .....
Address .....
City..... State.....

Purposely, the program of the Department of Visual Instruction has been arranged to avoid conflict with the general sessions of the National Education Association. The first meeting will be a luncheon at the Congress Hotel, 12:15 noon, Wednesday, July 5. The central theme for discussions will be "The responsibility of teacher-training institutions for visual-sensory aids courses." Superintendent R. G. Jones, Cleveland Public Schools, will discuss the topic from the standpoint of the school superintendent. The teachers' college standpoint will be presented by President Albert Lindsay Rowland of the State Teachers College at Shippensburg, Pennsylvania. Miss Elda Merton, Waukesha, Wisconsin will present the viewpoint of the teacher.

The next session is scheduled for two o'clock in the afternoon of the same day, in the same room. There will be no evening meeting, other than the meetings of the various working committees, and the next feature of the program will be the visit to Adler Planetarium at nine o'clock Thursday morning.

The third regular session will be another luncheon at 12:15 on Thursday. The discussions will center around visual-sensory aids and the economic situation. The fourth session will be concerned with relating visual-sensory aids to the curriculum. During this session, a demonstration of radio vision will be presented by Miss S. Naomi Anderson, of the Departmen of Visual Education, Chicago Public Schools.

The combined attractions of the Century of Progress Exposition, the annual meeting of the National Education Association, and the meeting of the Department of Visual Instruction seem to justify the anticipation of the largest visual instruction meeting ever held in this country. Undoubtedly, the hotel facilities will be crowded. It will be necessary, therefore, to make plans much farther in advance than usual. For this reason, the accompanying blank is provided for your use in making the necessary reservations for the luncheon meetings, requesting membership in the Department, ordering a copy of the Directory, etc. It will be to your advantage to check it and mail it without delay.

Department Membership

Membership in the Department of Visual Instruction of the National Education Association is open to anyone who may be engaged in educational service, among schools, churches, government departments, or industrial organizations. Members receive, in addition to the Directory, a subscription to the combined "Educational Screen and Visual Instruction News."

Such other reports or bulletins as may be published by the Department are distributed among members. Members receive generous discounts on certain books and monographs, as well as a special subscription rate to the "International Review of Educational Cinematography."

The cost of either Associate or Active membership in the Department is but $2 a year. The services extended to members would cost more than twice this amount, if purchased separately. Those who are members of the National Education Association become Active members and all others are Associates. The services extended to both types of members are the same, but Associate Members have no voice or vote in the affairs of the Department.

1933 Directory Ready

The Visual Instruction Directory for 1933 is now ready for general distribution. Complimentary copies have been mailed to all members of the Department of Visual Instruction and will be mailed to those who may join in the near future. It is the most complete directory of its kind ever issued, containing in its eighty pages the names and addresses of more than 3,500 directors of visual instruction and other visual instruction workers.

The Directory is divided into six parts. Part I contains a list of officials in charge of state visual instruction service. This list should be helpful to all those who are interested in securing visual aids on loan.

Part II is a list of the officials in charge of city, district and county departments of visual instruction. This list will indicate, to a certain extent, the very rapid progress toward definitely organized programs of visual instruction among the leading school systems.

Part III includes a list of those in charge of visual instruction service as offered by the various city, state and national museums. In many instances, these museums have extensive visual instruction service available for the use of schools.

Part IV contains the longest of the six lists. It is made up of names of those who are using visual aids in connection with the educational plans of their schools, but who may not be designated "Director of Visual Instruction." The list includes the names of teachers, principals, superintendents, church workers, and others who have shown an interest in the improvement of instruction through the proper use of visual-sensory aids.

Part V is a list of the teachers of university extension divisions. Those whose divisions are offering visual instruction service of any type are so indicated.

Part VI is made up of a list of the institutions which are offering visual instruction courses, including, in most instances, the names of the instructors in charge. There has been much demand for this information from among those who desire further training in the use of visual-sensory aids for the improvement of classroom instruction.

As indicated above, those who are members of the Department receive the Directory without charge. Those who may apply for membership at this time and pay the annual dues of $2 will receive it. Others may purchase the Directory at $1.50 the copy, postpaid. Requests for the Directory or applications for membership in the Department of Visual Instruction should be mailed to the office of the secretary, 1812 Illinois Street, Lawrence, Kansas.

International Review at Special Rate

Dr. Luciano de Feo, Director of the International Institute of Educational Cinematography, has approved the extension of the library subscription rate to directors of visual instruction and boards of education in the United States. This is construed to mean that any active member of the Department of Visual Instruction may subscribe for the *International Review of Educational Cinematography* at a discount of 20%.

The magazine is published monthly, averages about seventy-two pages to the issue, and is attractively bound. It is full of pertinent discussions of the educational uses and possibilities of the motion picture. For example, the following topics are discussed in the January and February issues of 1933—

The Revolutionary Fifth Estate
What England is Thinking About the Cinema
Films in the German Schools
The Development of the Sound Film
The Progress of Educational Cinematography in Great Britain.
Language Teaching and the Talking Film
The Edinburgh Scholastic (Film) Inquiry
Instructions in Cinema Technique for Teachers
The Use of Films for Preventing Accidents
How Much of a Sound Picture Should be Talk?
Filming the Aurora Borealis

In addition, there are numerous brief news notes and reports, citations of books and magazine articles, and announcements of outstanding new film productions in various countries.

The Review is published in Rome and is available in any one of five languages; Italian, French, German, Spanish or English. The annual subscriptions rate is $4, including a beautifully tooled Florentine leather binder for the annual volume. The discount would reduce this to $3.20. It is quite probable the January, February, March and April issues can be furnished to those who might desire to subscribe as of January 1, 1933.

Subscriptions may be forwarded directly to the International Institute of Educational Cinematography or may be ordered through the Department of Visual Instruction. If ordered through the Department, a charge of 30c per subscription will be assessed to cover the cost of an international money order, postage, etc. The total cost, therefore, will be $3.50 for the year's subscription. Orders through the Department should be mailed to the secretary's office, 1812 Illinois Street, Lawrence, Kansas, where they will receive prompt attention.

AMONG THE MAGAZINES AND BOOKS

CONDUCTED BY MARION F. LANPHIER

New York State Education (February) This issue offers as the fifth article in its Visual Instruction Series, "The Stereograph in Education," by George E. Hamilton. It is a concise summary of the contribution this device may make to the visual program. Because of its illusion of depth and space relationship, the stereograph gives the looker a very important impression of reality, which in turn creates greatest interest.

Other advantages which make this type of aid desirable are: its relative inexpensiveness, the ease with which it may be used for individual study, and its practical indestructibility.

"The Value of Educational Exhibits," by Julius C. Braun, Director of the Department of Industrial Arts, Hamburg, New York, in this same issue emphasizes the importance of school exhibits to acquaint the public with the general aims and requisite information concerning school courses. Too often inadequate and misleading information reaches school patrons, resulting in adverse criticism of the school.

Ohio Schools (January) Mr. B. A. Aughinbaugh, State Supervisor of Visual Instruction in Ohio, relates some "'Believe It or Not' Stories" regarding visual instruction, which throw new light on the problem of testing the value of visualization. He mentions a study conducted in Ohio a few years ago which approached its objective by examining the ability of each of the two forms of communication—visual and verbal—to convey messages in the four rhetorical divisions—description, narration. exposition and argumentation. To accomplish this work, it was found necessary to discard the use of commonly accepted forms of tests for any one of the four cases except exposition, since the type of testing generally used does not reveal the importance of visual representation—a situation which he claims has done much to produce the slow pace by which visual aids have been introduced into school work.

The American Cinematographer (January) "Schools Strongly Favor Pictures in Education," writes Marian Evans, Head of Visual Education Department of the San Diego Schools, but, like all other school equipment, they must be selected with care to fit the needs and interests of the students and must be effectively used by the teacher. She summarizes the service offered by the Visual Instruction Center and suggests a representative staff for a well-rounded program for a city of 150,000 to 200,000 population. Regarding the visual education budget, she considers the most satisfactory method to be that of figuring a percentage basis of per pupil average daily attendance to cover all expenses except that of installation of equipment permanently placed, such a rate to parallel the amount allowed for books.

Mind and Body (January) "Visual Aids to Health Education," by Howard L. Conrad, Supervisor of Physical and Health Education of the Philadelphia Public Schools, is the title of a series of articles beginning in this issue. The series will attempt to point out the values and methods of usage of various visual aids as they apply to health education.

The writer devotes his first instalment to the values of blackboard illustrations, which are stated to be: they aid in the establishment of atmosphere, in making the aim of the lesson more tangible, in the presentation of new material, and in pupil participation. "In this visual aid," he says, "there is practically no limitation to the inventiveness, initiative, and originality that may be displayed by the teacher in presenting phenomena more or less complex."

(February) In his second instalment Mr. Conrad considers the use of "Films, Charts, and Posters as Visual Aids to Health Education," quoting some of Mr. J. J. Weber's statements regarding the values of films and ways in which they can be used in a given lesson. He helpfully suggests some features to look for in selecting suitable health films.

The writer regards charts as great time-savers in health instruction and tells of two kinds, the commercial printed or lithographed charts and pupil or teacher-made charts. Posters are very popular and can be secured from various welfare and health associations, and dairy councils. Practically all Art courses provide instruction in poster-making.

Sierra Educational News (February) Addie L. Wilkinson, Whittier School, Long Beach, California, gives a concrete example of the "Use of Slides in First Grade Reading," which resulted in general interest and enthusiasm on the part of the class. The slides were projected on the blackboard, rather than a screen, so that words for study could be written on the board, and remain when the picture vanished.

THE FILM ESTIMATES

Being the Combined Judgments of a National Committee on Current Theatrical Films

(The Film Estimates, in whole or in part, may be reprinted only by special arrangement with The Educational Screen)

Estimates are given for 3 groups
A—Intelligent Adult
Y—Youth (15-20 years)
C—Child (under 15 years)
Bold faced type means "recommended"

Big Cage, The (Clyde Beatty) (Universal) Unusual, absorbing, thrilling, human portrayal of wild-animal-training by youngest trainer and first to handle lions and tigers together. Beatty impresses as engaging hero of really fine accomplishment. Some crude vulgar comedy mars an otherwise splendid film.
A—**Excellent** Y—**Excellent** C—Fine but exciting

Blondie Johnson (Joan Blondell, Chester Morris) (Warner) Stereotyped gangster-melodrama, but with main "big shot" a girl, cleverly acted by star. Main theme, "nothin' counts in life but dough, see?" Smart-aleck wisecracks, terrible English, booze, sweeties, double-crossings, shootings, and vulgarian life in general.
A—Trash Y—Pernicious C—No

Christopher Strong (Katharine Hepburn, Colin Clive) (RKO) Sophisticated love-triangle, of modern, intelligent people, rather heavy in both dialog and action, but well acted. Notable for fine work of Miss Hepburn as aviatrix-heroine, whose love for the married hero much her senior, leads to her suicide.
A—Good of kind Y—Decidedly not C—No

Clear All Wires (Lee Tracy, Benita Hume) (MGM) Brisk newspaper-correspondent runs hectic, wisecracking career in Paris and Moscow, glorifying himself by sensational news, whether true or not. Affair with mistress of his boss brings trouble and final failure. Breezy entertainment in Lee Tracy style.
A—Depends on taste Y—Doubtful C—No

Crime of the Century (Jean Hersholt, Stuart Erwin) (Paramount) Entertaining and decidedly "different" murder-mystery that does not resort to scare-devices for thrills. Picture stops for moment to give audience chance to solve. Interesting and suspense is well maintained, plot convincingly worked out, and acting good.
A—**Good of kind** Y—**Good** C—Perhaps

Dangerously Yours (Warner Baxter, Miriam Jordan) (Fox) Deft acting by the stars, as gentleman crook and lady detective, operating in English society and getting into many professional and romantic complications. Makes crime rather alluring but avoids offensive scenes. Melodramatic and improbable but mostly amusing.
A—**Good of kind** Y—Doubtful C—No

Devil's Playground (George Vanderbilt) (Cameo) Picturizes private South Seas fishing trip. Fairly good pictures of game-fishing with clumsy faking for story sake. Off-stage voice tries to glorify "George" and add thrills by getting excited itself. Much over-statement, poor English, and ridiculous humor.
A—Hardly Y—Harmless C—Perhaps

Face in the Sky (Spencer Tracy, Marian Nixon) (Fox) Fairy-tale mixture of rural-life comedy, crude melodrama, incredible adventures and poetic whimsy. Super-conceited, wise-cracking, sign-painter saves country heroine from brutish home. Has brief success in New York, then back to rural life with his devoted little wife.
A—Fairly good Y—**Amusing** C—**Good**

From Hell to Heaven (Carole Lombard, Jack Oakie) (Paramount) Exploitation of race-track life. Various characters, good, bad and colorless, seeth about betting windows, each playing the game with different motives. Much futile activity and emotion with some labored comic relief by Jack Oakie.
A—Hardly Y—Hardly C—No

Gabriel over the White House (Walter Huston) (MGM) Powerful, significant picture of what a President of the United States with will and courage could do to solve national and international problems and save civilization. Outstanding film with perfect cast. Whole nation should see Walter Huston's masterful portrayal.
A—**Outstanding** Y—**Excellent** C—**Excellent**

Girl Missing (Ben Lyon, Mary Brian) (Warner) Two chorus-girls, one very cheap, slangy and amusing, are left with only their wits to pay Palm Beach hotel bill, when supposed "sugar-daddy" deserts. Murder, fake-kidnapping, some quick thinking—and they defeat villainous chum and her gang. Lively and unobjectionable.
A—Hardly Y—Probably amusing C—No

Great Jasper, The (Richard Dix) (RKO) Utterly common, crudely amorous, hard-drinking vulgarian is offered as hero. Neglects devoted wife and son, begets another by seducing young wife of aged boss, and finally does drunken spree with the two sons when they are grown up. Excellent bad taste, more offensive than amusing.
A—Trash Y—By no means C—No

Her Mad Night (Irene Rich, Conway Tearle) (Mayfair) "Mother love" story, heavily loaded with melodramatic trash about daughter with key's to many men's apartments, a sex-obsessed villain, a murder, a death march to execution chamber — and runaway mother comes back and saves daughter!!
A—Trash Y—Thoroughly bad C—No

Keyhole, The (Kay Frances, George Brent) (Warner) New York and Havana furnish glamorous background for exotically gowned heroine and her loves. Brent likable as detective who falls in love with heroine he was hired by husband to shadow. Still preceding husband makes the trouble. Clean dialog and action.
A—Depends on taste Y—Not the best C—No

King Murder, The (Conway Tearle) (Chesterfield) Above average mystery story about solution of murder of blackmailing, gold-digger mistress. No scenes of violence or scare. Plot involved but interesting. Cast satisfactory with exception of murderer. Probably wholesome excitement for average youth.
A—Rather good Y—Probably interesting C—No

Men Must Fight (Diana Wynyard, Lewis Stone) (MGM) Heroine's two-day lover killed in Great War, she marries devoted old Major to give child his fine name. Then film becomes strong, confusing propaganda for peace, still showing war as inevitable and preparedness essential. War in 1940 as climax.
A—Unusual Y—Very doubtful C—No

Mystery of the Wax Museum (Lionel Atwill, Glenda Farrell) (Warner) Another horror-thriller with some new shocks and shudders, over wax figures that are not what they seem. Well-motivated leading role played with dignity by Atwill, and Farrell's whirlwind wise-cracking comedy make above-average-mystery film.
A—Good of kind Y—Doubtful C—By no means

Obey the Law (Leo Carillo) (Columbia) Italian barber takes out papers and becomes a super-patriotic, effusive American. He blunders into complications with gangs and crooked politicians, but finally gets his eyes open and is the means of defeating the gangsters. Sentimental and bombastic.
A—Mediocre Y—Hardly C—No

Our Betters (Constance Bennett, Gilbert Roland) (RKO) American heiress, with unfaithful English husband, turns hard and becomes as heavily sex-appealing as possible. Sneers at America, dominates decadent English society, and leads her set in brazen conduct. Sex-saturated high life in lavish setting.
A—Unsavoury Y—Pernicious C—No

Outsider, The (British Cast) (MGM) Heavy, slow-moving story of crippled daughter of great surgeon. Supposed incurable until non-medical hero, with new-fangled electrical device, treats her, but she still cannot walk. Thinking her beloved hero is leaving her, she runs to him, cured.
A—Ponderous Y—Hardly C—No

Perfect Understanding (Gloria Swanson) (U. A.) Trite and uninspired story about difficulties of remaining faithful in marriage. Elementary production, supposedly laid among English society, with elaborate London and Riviera backgrounds. Gloria's acting and voice disappointing.
A—Mediocre Y—Unwholesome C—No

Pick Up (Sylvia Sidney, George Raft) (Paramount) Unconventional but decent love affair, without sex exploitation, between a prosaic, honest taxi-driver and fine little heroine down on her luck. Sophisticated situation, but cleanly told and well acted. Wholesome elements dominant and total effect probably good.
A—Fair Y—Probably good C—Hardly

Rome Express (Conrad Veidt, Esther Ralston) (Universal) Excellent English-made melodrama a la Grand Hotel, all action confined to Paris-Rome through train. Many human types, theft, murder, and illicit romance with novel lesson, are included. Plot, suspense, acting, setting, details—all notably good.
A—**Very good** Y—Probably good C—No

Sailor's Luck (James Dunn, Sally Eilers) (Fox) Riotous, rowdy farce-comedy about sailors and their doings in various ports, with slapstick and horse-play almost swamping the Dunn-Eilers love story. Artificial and absurd misunderstandings keep story going. A chronic drunk and a bathing-suit clown are features!!
A—Absurd Y—Hardly C—No

Soviets on Parade (Native Russian Film) (Amkino) Elaborate news-reel of recent celebrations and personalities in Russia, military displays, opening of new huge industrial dam, etc. Presented with great enthusiasm for the glory of the Soviets and national mass action. Explanatory accompaniment in English.
A—Perhaps Y—Probably good C—No

Strange Adventure (Regis Toomey) (Allied) Murder-mystery of scare-thrill type, highly melodramatic and improbable, merely seeking to draw crowd to box-office by hair-raising devices. Only original touch, revealing method of crime merely by shifting angle of camera to scene in question.
A—Mediocre Y—Doubtful C—No

Uptown New York (Jack Oakie) (World Wide) Oakie plays likable character as the clumsy, naive, but devoted lover of a heroine in love with another man. In most other respects, the film is mediocre, with trite plot, wobbly motivation, and the utterly obvious ending.
A—Poor Y—Better not C—No

White Sister (Helen Hayes, Clark Gable) (MGM) The old F. Marion Crawford story beautifully screened, with Helen Hayes excellent as heroine and Gable measuring up well to a serious role. Pictures convincingly a great, true love grimly thwarted by disaster of war. Church scenes done with fine dignity and impressiveness.
A—**Excellent** Y—**Mature but fine** C—Beyond them

THE CHURCH FIELD

CONDUCTED BY R. F. H. JOHNSON

How to Conduct a Worship Service With Visual Aids

REV. H. PAUL JANES

A GREAT many people have asked me: "How do you conduct a worship service with visual aids?" In the next several issues of THE EDUCATIONAL SCREEN I am going to try to describe a series of worship services in which visual aids are used.

Here are some suggestions for a service entitled *The Call to Greater Heights.*

Pictures are used in this service to perform at least two primary functions: (1) to recall experiences vividly in order that God may be revealed most vividly. (2) To stimulate vicarious experience in order that those who may not have had the desirable experiences may also identify God and understand the Christian gospel interpretation. *Note this*: The service makes no attempt at interpretation. That is the function of the one who conducts worship—the minister or the teacher.

The church is in semidarkness. The only lights visible are dark blue bulbs and fixtures at the entrance to the nave. A lighted "center of interest" should be supplied for the eyes of the congregation. This may be easily done by an appropriate slide on the screen, by a lighted stained glass window, or more elaborately as follows. A spotlight covered with blue gelatin, placed at the foot of the chancel out of sight casts the shadow of a cross upon the motion picture screen at the front of the church. The effect is that of a cross on a hillside silhouetted against a deep blue sky. The function of this religious "center of interest" is to stimulate the religious set of the gathering congregation in preparation for worship.

While the congregation enters, soft familiar music is played on the organ, piano or electric sound reproducer. This music continues until the prelude, and its function is to reduce prejudice and quiet the emotions.

Ushers use dim flashlights to light the way to seats as persons coming into a dark church are temporarily unable to see. Flashlight beams are kept on the floor and do not flash across the room or in the faces of the people. Persons entering are not allowed to cross the beam of light running from projector to screen. Soft lights are provided for musicians and pulpit but these are hidden from the view of the congregation. As the hour for worship arrives the musician leads into the prelude.

Suggestions: "Largo" from Handel's "Xerxes" (V. R. 35958-A); "Meditation" from "Thais" by Massenet (V. R. 6844-A).

It is just as effective to use electric sound reproducer or phonograph with good phonograph records as to play the organ or piano, but if a sound reproducer is used it must be a good one, so good that the congregation will not be able to tell which is the organ and which is the sound reproducer. If the service is not held in the church, then less efficient equipment can be used.

About one minute before the prelude is finished, "fade out" the "center of interest" and project theme picture, "Flowers in a Meadow." As the prelude is finished "fade out" the theme picture and restore the "center of interest."

(If possible it is desirable to use a double rheostat between the stereopticon projector and the "center of interest" so that one can be "faded" out as the other "fades" in. This does away with the flashing on and off of lights. The rheostat is not essential, however, and most churches experimenting will not have it available.)

The organist should swing from the prelude to the adoration hymn, playing it through once before the congregation begins to sing. As the last few notes of the hymn are being played the light on the "center of interest" should be put out and the adoration hymn projected. At the end of the hymn, light the "center of interest" again and take off the adoration hymn.

The scripture lesson is read from the lectern or pulpit. A reading lamp with not over 10 watts illumination is needed. Keep the lamp from glaring in the eyes of the congregation. A few verses from the Psalms are suggested: Ps. 19:1-3; Ps. 121:1-2; Ps. 24:1-2; Ps. 96:11-12; Ps. 95:1-7; Ps. 66:1-5. The "center of interest" remains lighted during the scripture reading, and during the prayer following. It is well to emphasize the theme of the service—"That God may reveal Himself through His majestic and beautiful creation." At the close of the prayer the organist begins to play the theme hymn.

As the theme hymn is taken from the screen, begin to project the motion picture. The organist can swing from the theme hymn to the music for the motion picture. In case instrumental selections suggested on the cue sheet are not available substitute other selec-

tions of the same type. Often hymn tunes can be found which will provide the musical background needed. Most hymn tunes, however, are associated with lyrics which people are accustomed to sing and this is sometimes distracting to the congregation.

For this service *Trees* by Joyce Kilmer (V. R. 1525-A) has been selected as the special number. As the film ends the light on the "center of interest" is turned on. The organist as quickly as possible swings to the music of the poem. After playing it through once the soloist begins to sing the first verse —and the projectionist puts the theme picture on the screen and turns the light off the "center of interest." As the first verse is ended the light comes on at the "center of interest" and off the theme picture. As the second verse is begun the picture "Tree by a Pool" is projected and the light on the "center of interest" is turned off.

As the soloist sings "Poems are made by fools like me" begin to light up the "center of interest" again so that when the soloist sings "But only God can make a tree" the light on the picture "Tree by a Pool" can be turned off, leaving only the "center of interest." If the reflected cross is used, the effect is beautiful. Here is an identifying of the orthodox Christian idea with the God of Creation which provides a worship realization of great importance to your service.

Then, the sermon. Its general tenor may be suggested by the following paragraph:

"If you have stood on a mountain side in the morning and watched the sun push aside the clouds to let in a new day; if you have reclined beside a camp fire and watched the stars come out one by one, growing to their magnitude; if you have ever stood by a waterfall and silently listened as the water broke itself into a fairy veil and floated by you; friend, if you have done these things, you know what it is to be still and listen to God." Usually the only extra light used during the sermon is a reading lamp on the pulpit (10 watts). The "center of interest" remains lighted.

After the sermon a prayer of thanks to God who speaks to us through His beautiful creation, calling us to "greater heights" is in order. The organist then begins the response hymn, playing it through once as the light goes out on the "center of interest" and the response hymn is projected for singing. At the end of the hymn the "center of interest" is lighted again. The theme picture is projected during the offertory. "Morning" from "Peer Gynt Suite" by Edward Grieg (V. R. 35793-A) may be played or the choir may render a number, but the music must be appropriate to the theme picture or else it will not be appropriate to the worship service—a thing which too often happens in worship. If announcements must be made—make them now—and pronounce the benediction. Use "Prelude in G Minor" by Rachmaninoff (V. R. 35951-B) as a postlude—or some similar number—leave the "center of interest" lighted—do not turn on any other lights—allow the congregation to visit in the foyer—not in the sanctuary.

Slides and Film for this Service are:

1. Theme Picture, *Flowers in a Meadow*; 2. Adoration Hymn, *"Fairest Lord Jesus"*—2 vs.; 3. Theme Hymn, *"God Who Touchest Earth with Beauty"*—4 vs.; 4. "Tree by a Pool"—the picture to illustrate Kilmer's poem *Trees*—second verse. First verse is illustrated with theme picture; 5. Response Hymn, *"This Is My Father's World"*; 6. Film, *The Call to Greater Heights*—a trip made by a group of devout young people to a lake in the mountains.

Cue Sheet—for musical accompaniment to film.

Begin with *Triumphal March* by Grieg — V. R. 35763-A.

Cue: Title—"God give us hills, and strength for climbing."
Air de Ballet by Herbert—V. R. 9147-B.

Cue: Watch!—scene a beaver dam.
At the Brook by Boisdeffre—V. R. 20344-B.

Cue: Title announcing vesper service.
Liebestraum by Liszt—V. R. 35820-B.

Cue: Title—"There's fun around the camp fire."
Air de Ballet by Herbert—V. R. 9147-B.

Cue: Title—"All too soon it's over."
Cavalleria Rusticana Intermezzo by Mascagni V. R. 20011-A.

Note: Letters and numbers (V. R. 20011-A) indicate Victor records which may be used with electric phonographs or sound reproducers to provide musical backgrounds for this film. If the musician is unfamiliar with the type of music suggested, hearing the record will aid in selecting a substitute number.

Government Activities

(*Concluded from page* 104)

card should be held in the "Out" file until the matter is finally adjusted.

A request for attendance should always be made in the shipment letter and this information as well as any other information regarding the material which the borrower chooses to send is typed on the reverse side of the shipping card. If the attendance is not given when the material is returned, a second request should be sent for it as the information is quite valuable when making up the monthly reports of the work accomplished. Criticisms of the material are also invited and this information typed on the reverse side of the card.

From the above description of the use of the Distribution File, it will be seen that the entire history of the loan is carried on the shipping card and at the end of the year a perusal of these cards will give a very definite report of the year's work as far as the distribution and usefulness of the material is concerned.

(To be continued)

SCHOOL DEPARTMENT

CONDUCTED BY DR. F. DEAN McCLUSKY

Director, Scarborough School, Scarborough-on-Hudson, N. Y.

Demonstration In Use of Visual Aids

WE ARE glad to pass on to our readers the following program of a demonstration of teaching technique in the use of visual aids, developed by Mr. A. G. Balcom of the Department of Visual Instruction, Newark, New Jersey. This demonstration, the third of a series, was held at the Lafayette Street School, March 8th, and the next one is scheduled for May 9th at the Burnett Street School.

Auditorium (second floor)—9:30 *to* 10:08 *a. m.*

1. Home-made song slides.
2. Home-made slides on "Safety".
3. Motion picture film (35mm), "Peter Stuyvesant," from "Chronicles of America." Explanation of correlated use in written language of all grammar grade classes.
4. Art Slides—Association of painting with literature and music.

10:08 *a. m. to* 10:35 *a. m.*

Grade	Room	Type of Lesson	Visual Aid Used
5A	409	Geography — Coal and coal mining.	Stereoscopes and stereographs; library pictures; museum exhibits.
7B	205	Art Appreciation — Art Textiles and Pottery	Slides from Dept. of Visual Ed.
Opp. 7-8	406	New England States —Industrial	Slides from Keystone "600"
4A	304	Oral Language "Holland"	Blackboard illustrations
7A	208	Music Appreciation —Stephen Foster	Slides
6A	410	Health— Foods	Com. exhibit; home-made exhibit
3A	307	(a) story-telling (b) silent reading	Still-film and slides from Primary "300" Set
1A	207	Health Lesson	Pictures & posters
3B	305	Silent Reading	Illustrated mimeographed materials

10:35 *to* 11:03

Grade	Room	Type of Lesson	Visual Aid Used
8B	405	History—Westward Movement	Lantern slides
6A	101	Manual Training Lumbering	Motion picture film (35mm)
8A	403	Geography— Development of Transportation	Home-made slides
Opp. 5-6	210	Hygiene	Film slides
2A	310	Silent Reading	Illustrated silent reading material
3A	306	Oral Language	Library pictures
1B	311	Primary Reading	Slides from Primary "300" set; home-made slides
4A	306	Geography— Holland	Motion picture film (16mm)
5AB	209	Arithmetic—Common Denominators	Film slide

11:03 *to* 11:30

Grade	Room	Type of Lesson	Visual Aid Used
6AB	408	Social Science— "Egypt"	Stereographs and stereoscopes; museum objects
7A	401	Geography— Iron and Steel	Film Slide; graphs; maps
8B	402	History— Civil War Period	Lantern & slides
5A	407	Geography—Middle Atlantic States, Salt	Commercial exhibit
2A	308	Nature Study— The Farm	Motion picture film (16mm)
4B	303	Silent Reading on Unit of Work— "Congo Region"	Lantern slides; mimeographed silent reading material
5B	302	History—Period of Exploration and Settlement	Maps; home-made exhibits
Kdgn.	102	Oral language; vocabulary building	Flim-slides
8A	404	Literature— "Snowbound"	Lantern and slides

Slides On "The Awakening of Spring"

TWO 1A and 2B Classes, combined with two 1B and 1A Classes saw colored slides on "The Awakening of Spring" followed by colored slides of animals that were familiar to the children. A little girl in the fourth grade told the German story connected with the nature study slides of the coming to life of the flowers, butterflies and other insects. At the conclusion of the animal pictures it was asked that the nature study story picture be shown again so as to give the children an opportunity to express themselves and to see their reactions to the pictures.

Another object of repeating the slides was to correlate a nature poem they all knew with these particular pictures and to correlate the different flowers and insects they knew in these pictures. The correlation of

the nature poem with the pictures was developed in the following way:

Teacher: "These pictures remind me of a poem we all know. Can anyone tell us the one we're thinking of?"

The different parts of the poem that the teachers had in mind were mentioned voluntarily by the children with evidence of a close association made between the poem and the slides.

Child: Recited the poem, "In the Heart of a Seed . ."

Teacher: "Let's all say it together."

In the heart of a seed,
Buried deep so deep,
A dear little plant,
Lay fast asleep.
"Wake," said the sunshine
And creep to the light."
"Wake," said the voice
Of the raindrops bright."
The little plant heard,
And it rose to see,
What the wonderful outside world
might be.

The children then discussed the similarities between the slides and the poem and brought out the differences with equal emphasis.

Adapting Visual Aids

(Concluded from page 100)

greatest objections to film slides is overcome by making double frame pictures. In projection the single frame pictures must be enlarged linearly about 72 times to produce a 6 foot picture while a double frame only needs to be enlarged 48 times to produce the same size picture. Now if the same amount of light is thrown on the two films the double frame pictures will be twice as bright as the single frame since it has twice the area. The only practical limit imposed on the enlargement of either size is the amount of light one can use without burning the film. The single frame film slide owes its popularity to the fact that it can be used in combination film slide and motion picture projectors. I think educators should carefully consider the possibilities of the double frame slide for class room use. With a good projector results can be obtained that are nearly as good as lantern slides.

During the last few years manufacturers of 35 mm. still cameras have done a great deal to make amateur copying a success. The Agfa Ansco Corporation have special methods of using their memo camera for copy work. This is a single frame camera ranging in price from twenty dollars up. The Leica Camera—a double frame instrument—also has accessories that make it possible to produce good copies. Both manufacturers build projectors to take their film. The double frame projector can also be very easily used for single frame pictures by masking off part of the aperture plate.

For our use here I have constructed an attachment for the back of the plate camera that uses 35 mm. film. It can be used for copying on to single or double frames. Excellent copies have been obtained with this attachment on to double frame films.

For Screen Projection

Write for free samples.

RADIO-MAT SLIDE CO., Inc.

1674 Broadway, New York, N. Y.

In using a copy camera for film use it is important that all frames receive the same printing density. Otherwise some frames will be too opaque and others too transparent. An exposure scale can be calculated and fastened to the back of the copy stand. It is not essential for lantern slide work but must be used for films. Such a scale can be calculated on the basis of the law that the relative exposure required with a given diaphragm opening is proportional to the square of the distance from the optical center of the lens to the film. These distances can be measured directly or can be calculated by the well known lens formula; $\frac{1}{D_o} + \frac{1}{D_i} = \frac{1}{F}$; where D_o is the distance from the optical center to the copy and D_i is the distance from the optical center to the film. F is the focal length of the camera lens which is usually printed on the front of the lens or can be determined from the maker of the camera if it is not given. Slight errors in the measurement of D_o and D_i are unimportant. Thus it is seen that the closer the camera is to the copy the longer the exposure must be. The correct exposure for any camera distance above the base can be marked at the place where the screw (B) comes. This exposure scale is shown at (F) figure 4.

Trying to copy colored material with ordinary positive film must be done with caution if good results are expected. Red will photograph black and blue will show white. In making titles or printed matter to copy a black ink should always be used. Good titles can be prepared by using a typewriter with a black ribbon. A glossy white paper should be used and borders around a title can be put in with India ink. Halftone illustrations from magazines or books can be copied, but newspaper halftones use too coarse a halftone screen to make good copies. All material should be carefully organized and should not be too long.

Summary:

1. Tests should be given on all visual material.
2. Projectors can be used to make or give tests.
3. Photographic copies of diagrams and pictures used in visual material are valuable for make up work and review.
4. Slides and film slides can be easily and cheaply copied for permanent use.
5. With a little greater investment schools can make some of their own visual material.

AMONG THE PRODUCERS

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NOW READY

Dr. McClusky's Report on

VISUAL INSTRUCTION

•

Its Values and Its Needs

•

THIS REPORT, made at the request of Mr. Will H. Hays, summarizes the author's ten years of intimate study in the field of Visual Instruction from the research angle. Dr. McClusky's first contact with Visual Instruction was at the University of Chicago where, under the guidance of Dr. Frank Freeman, he wrote his doctor's thesis in that field. Since that time as chairman of a National Educational Association sub-committee and as President of the National Academy of Visual Instruction he has made a number of surveys of the use of visual aids in the educational field, thus giving him a wide background of rich experience for this study which is reported herewith.

In other words, this report summarizes in succinct form the results of over ten years of intensive study of Visual Instruction and answers the question "What is the Present Status of Visual Instruction?"

Other questions answered in this report are: How many courses in Visual Instruction are offered in the schools of our country? How many teachers in training are being instructed in the methods of Visual Instruction? What is the annual expenditure of city school systems for Visual Instruction? What are the immediate needs of Visual Instruction? What can industry do to cooperate with educators in furthering the advantages of this new medium of teaching? It is the only authentic and up-to-date study of its kind ever made.

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Order your copy at once.

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64 E. LAKE ST. CHICAGO, ILL.

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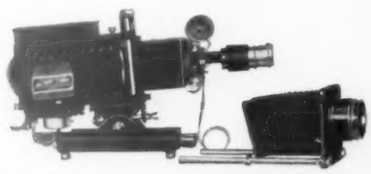
A Real Necessity

In these days of curtailed finances every dollar must do double duty—Dollars invested in the combination glass slide, filmslide and microscope slide lantern —Model DC—will bring more than double returns to both the teacher and the pupils.

The use of these visual aids increases interest, reduces failures and repeaters, and brings to the students a much more comprehensive understanding of the subject they are studying.



In Model DC you are getting a three-purpose lantern at a very low cost. It has a number of special features built in to the lantern for the convenience of the teacher—all are listed in booklet K-78, sent gratis.

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There is joy in making good photographs . . . Read how others do it. Subscribe to that beautiful, monthly magazine.

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703 Market Street, San Francisco, California

HERE THEY ARE!

A Trade Directory for the Visual Field

FILMS

Bray Pictures Corporation (3, 6)
729 Seventh Ave., New York City.

Carlyle Ellis (1, 4)
53 Hamilton Terrace, New York City
Producer of Social Service Films

Eastman Kodak Co. (4)
Rochester, N. Y.
(See advertisement on outside back cover)

Eastman Teaching Films, Inc. (1, 4)
Rochester, N. Y.

Edited Pictures System, Inc. (1, 4)
330 W. 42nd St., New York City

General Electric Company (3, 6)
Visual Instruction Section,
Schenectady, N. Y.

Ideal Pictures Corp. (1, 4)
26 E. Eighth St., Chicago, Ill.

Modern Woodmen of America (1, 4)
Rock Island, Ill.

Pinkney Film Service Co. (1, 4)
1028 Forbes St., Pittsburgh, Pa.

Ray-Bell Films, Inc. (3, 6)
817 University Ave., St. Paul, Minn.

Society for Visual Education (1, 4)
327 S. LaSalle St., Chicago, Ill.
(See advertisement on page 98)

United Projector and Films Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Universal Pictures Corp. (3)
730 Fifth Ave., New York City
(See advertisement on page 98)

Wholesome Films Service, Inc. (3, 4)
48 Melrose St., Boston, Mass.

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

Y. M. C. A. Motion Picture Bureau (1, 4)
347 Madison Ave., New York City
19 S. LaSalle St., Chicago, Ill.

MOTION PICTURE MACHINES and SUPPLIES

Bass Camera Co. (3, 6)
179 W. Madison St., Chicago, Ill.

Bell & Howell Co. (6)
1815 Larchmont Ave., Chicago, Ill.
(See advertisement on inside back cover)

Eastman Kodak Co. (4)
Rochester, N. Y.
(See advertisement on outside back cover)

Edited Pictures System, Inc. (1)
330 W. 42nd St., New York City

Ideal Pictures Corp. (1, 4)
26 E. Eighth St., Chicago, Ill.

International Projector Corp. (3, 6)
90 Gold St., New York City

Motion Picture Accessories Co. (3, 6)
43-47 W. 24th St., New York City.

Regina Photo Supply Ltd. (3, 6)
1924 Rose St., Regina, Sask.

United Projector and Film Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Victor Animatograph Corp. (6)
Davenport, Iowa.
(See advertisement on inside front cover)

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

SCREENS

Da-Lite Screen Co.
2721 N. Crawford Ave., Chicago

Motion Picture Accessories Co.
43-47 W. 24th St., New York City.

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

SLIDES and FILM SLIDES

Conrad Slide and Projection Co.
510 Twenty-second Ave., East
Superior, Wis.

Eastman Educational Slides
Iowa City, Ia.

Edited Pictures System, Inc.
330 W. 42nd St., New York City

Ideal Pictures Corp.
26 E. Eighth St., Chicago, Ill.

Keystone View Co.
Meadville, Pa.

Radio-Mat Slide Co., Inc.
1674 Broadway, New York City
(See advertisement on page 113)

Society for Visual Education
327 S. LaSalle St., Chicago, Ill.
(See advertisement on page 98)

Spencer Lens Co.
19 Doat St., Buffalo, N. Y.
(See advertisement on page 115)

Victor Animatograph Corp.
Davenport, Iowa.
(See advertisement on inside front cover)

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STEREOGRAPHS and STEREOSCOPES

Keystone View Co.
Meadville, Pa.

STEREOPTICONS and OPAQUE PROJECTORS

Bausch and Lomb Optical Co.
Rochester, N. Y.

E. Leitz, Inc.
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REFERENCE NUMBERS

(1) indicates firm supplies 35 mm. silent.
(2) indicates firm supplies 35 mm. sound.
(3) indicates firm supplies 35 mm. sound and silent.
(4) indicates firm supplies 16 mm. silent.
(5) indicates firm supplies 16 mm. sound.
(6) indicates firm supplies 16 mm. sound and silent.

IS YOUR firm represented here? It should be. Continuous insertions under one heading cost only $1.50 per issue; additional listings under other headings, 50c each.

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